OIPE TAP40
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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Fabrice DELLA MEA

Appln. No.: 09/749,656

Confirmation No.: 8724

Filed: December 28, 2000

Docket No: Q62485

Group Art Unit: 2688

Examiner: Sharad K. RAMPURIA

For: A METHOD OF ESTABLISHING TANDEM FREE OPERATION MODE IN A CELLULAR MOBILE TELEPHONE NETWORK

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

Submitted herewith please find an Appeal Brief. The USPTO is directed and authorized to charge the statutory fee of $500.00 and/or all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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Registration No. 51,361

Date: May 15, 2006

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is ALCATEL of Paris, France, the assignee. The assignment was recorded on March 1, 2001, at Reel 011554 Frame 0797.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, Appellant's legal representative, or the assignee that will directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-22 are pending in the present application and stand rejected.

Claims 1, 9, 13-14, 19 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe et al. (U.S. Patent No. 5,991,642; hereinafter "Watanabe") in view of Oestreich (U.S. Patent No. 6,349,197; hereinafter "Oestreich").

Claims 10-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe and Oestreich in view of Mayer (U.S. 2003/0195011; hereinafter Mayer).

Claims 20 and 21 have been allowed.

Claims 2-8 and 15-18 have been objected to but would be allowed if rewritten in independent form.

A copy of the claims on appeal is set forth in an attached Appendix.

IV. STATUS OF AMENDMENTS

Amendments to the claims were submitted in an Amendment Under 37 C.F.R. § 1.111 filed October 21, 2003, in response to the Office Action dated May 21, 2003. New claims 14-18 were added. Amendments to the claims were submitted in an Amendment Under 37 C.F.R. § 1.111 filed April 20, 2004, in response to the Office Action dated January 20, 2004. New claims 19-21 were added. Amendments to the claims were submitted in an Amendment Under 37 C.F.R. § 1.111 filed October 14, 2004, in response to the Office Action dated July 14, 2004. Claim 22 was added. Amendments to the claims were submitted in an Amendment Under 37 C.F.R. § 1.111 filed June 23, 2005, in response to the Office Action dated February 23, 2005. Claims 1, 9, and 12 were amended. A Response Under 37 C.F.R. § 1.116 was submitted on February 13, 2006 in response to the Office Action dated September 13, 2005.

The Advisory Action dated February 23, 2006, states that the Response filed February 13, 2006, has been considered but does not place the application in a condition for allowance.

All amendments are believed to have been previously entered and made of record.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Appellant's invention as recited in independent claims 1 and 22 is directed to a method of establishing tandem free operation mode for a mobile station to a mobile station and cell to cell call in a cellular mobile telephone system and an entity operable in a cellular mobile communication system operable to establish tandem free operation mode for a mobile station to mobile station and cell to cell call in the cellular mobile telephone system.

Various coding modes, such as full rate (FR), enhanced full rate (EFR) and half-rate (HR), are used to transmit voice over a radio interface. HR mode consumes the least resources and therefore offers increased capacity compared to the FR or EFR mode. However, the quality of the HR mode is generally lower than that obtained with the FR or EFR mode. See Appellant's specification at page 1, lines 10-29.

Transcoders are often used to convert from a coding mode used for transmission over a radio interface to a standard coding mode between a mobile and a fixed terminal. However, transcoding is not necessary for calls between two mobile terminals. Therefore, to avoid unnecessary degradation of a voice a Tandem Free Operation (TFO) operating mode can be used. See page 2, lines 10-19. When operating in TFO mode, a common coding mode is selected. The conventional method for selecting a common coding mode is a quality optimization criterion. See page 2, lines 32-34. However, in certain instances, application of the quality optimization criterion can increase the load on a cell and consequently degrade system performance.

Therefore, exemplary embodiments of the present invention as recited in for example, independent claims 1 and 22, address at least the above-identified problems.

Claim 1

A method of establishing the tandem free operation mode for a mobile station to mobile station and cell to cell call in a cellular mobile telephone system (see for example, page 2, lines 11-17), the method comprising selecting a common coding mode for each mobile station and the selection of a common coding mode takes account of the traffic load in at least one cell (see for example, page 7, lines 7-19; lines 34-37; see also, Figs. 2 and 3).

Claim 22

An entity operable in a cellular mobile communication system, operable to establish tandem free operation mode for a mobile station-to-mobile station and cell-to-cell call in said system (see for example, page 2, lines 11-17), said entity is in charge of said call for a given one of said mobile stations, said entity comprising:

means (base station subsystems BSSA, BSSB and transcoders TCA, TCB) for selecting a common coding mode for each of said mobile stations (see for example, page 7, lines 34-37),

means (base station subsystems BSSA, BSSB and transcoders TCA, TCB) for taking into account the traffic load in at least one of said cells for said selection of a common coding mode (see for example, page 7, lines 7-13). See also Figs. 2 and 3.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1, 9, 13-14, 19 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe in view of Oestreich.

2. Claims 10-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe and Oestreich in view of Mayer.

VII. ARGUMENT

I. Claims 1, 9, 13-14, 19 and 22 patentable over Watanabe and Oestreich

Claims 1, 9, 13-14, 19 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe et al. (U.S. Patent No. 5,991,642) in view of Oestreich (U.S. Patent No. 6,349,197).

Appellant submits that the claimed elements are not obvious in view of Watanabe and Oestreich. In particular, Oestreich does not teach or suggest addressing the technical problems as disclosed by the Appellant's invention.

Claim 1 recites:

> A method of establishing the tandem free operation mode for a mobile station to mobile station and cell to cell call in a cellular mobile telephone system, the method comprising **selecting a common coding mode for each mobile station and the selection of a common coding mode takes account of the traffic load in at least one cell.**

The Examiner concedes that Watanabe does not teach a step of selecting a common coding mode for each mobile station and the selection of a common coding mode takes account of the traffic load in at least one cell, and cites Oestreich to cure the deficiency. See Office Action of September 13, 2005 at page 4, second paragraph. In particular, the Examiner asserts that Oestreich teaches that the traffic load causes transcoding to change.

Oestreich merely discloses that a control means detects interruptions in the TPO transmission; therefore if a changeover is necessary in a half-rate mode, then a narrow band

speed coding method SSCV should be selected. Oestreich discloses to select either a broadband or a narrowband speech coding method. See col. 2, lines 15-20. Oestreich discloses that (only) the broadband transmission of speech information occurs with a TFO mode. See col. 4, lines 18-20. Oestreich further discloses, for a given connection, to monitor the transmission possibilities, and depending on this monitoring, to execute if necessary a switchover from the broadband to the narrowband speech coding method. See col. 2, lines 20-28, or col. 4, lines 27-44; i.e. a switchover from TFO mode to non TFO mode.

An example of such a switchover from the broadband to the narrowband speech coding method is the "bottleneck in the allocation of radio resources" referred to by the Examiner and disclosed at col. 4 lines 38-39. However, this is different from the selection of a common coding mode, taking into account the traffic load, as claimed in the present application.

Moreover, as previously indicated, Watanabe discloses the selection of a coding mode according to a coding mode which mobile stations have in common. In particular, a goal of Watanabe is to permit a control station to select a speech coding scheme according to an order of priority. See col. 7, lines 3-12. *Assuming arguendo*, Oestreich teaches the elements as claimed, the combination of Oestreich with Watanabe is not obvious. In particular, modifying Watanabe would result in a substantial modification of the principal of operation of Watanabe (MPEP 2143.01(V)), evidencing that the Examiner's reasoning is merely a result of impermissible hindsight.

Watanabe is directed to a mobile communications system which has a control station which selects speech coding schemes for a mobile station. Watanabe discloses a call between a

mobile station 11, which can use A or B speech coding schemes, and a mobile station 12, which can only use a B speech coding scheme. A switch 41 accesses a database 51 containing speech coding scheme data of mobile stations 11 and 12 and determines that mobile station 11 can use A or B speech coding schemes and that mobile station 12 can only use a B speech coding scheme. A selection condition that selection is restricted to speech coding scheme B is sent to control station 31 and is further stored in selection condition table 80.

In accordance with the selection condition, control station 31 selects a traffic channel of bit rate ß corresponding to speech coding scheme B and notifies the switch 41 of the selected channel. The switch 41 notifies control station 31 that it should make base station 21 and mobile station 11 start up using speech coding scheme B and also sets up a traffic channel to switch 42.

Based on the foregoing, it is apparent that the selection of a coding mode in Watanabe is based solely on a coding mode that the mobile stations have in common. There is no indication that the selection of a common coding mode takes into account the traffic load in at least one cell.

For at least the above reasons, claim 1 and its dependent claims should be deemed allowable. To the extent claim 22 recites similar elements, claim 22 should be deemed allowable for at least the same reasons.

II. Claims 10-12 are patentable over Watanabe, Oestreich and Mayer

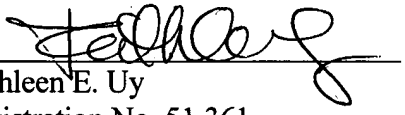
Claims 10-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe and Oestreich in view of Mayer. Claims 10-12 should be deemed allowable by virtue of their dependency to claim 1 for the reasons set forth above. Moreover, Mayer does not cure the deficiencies of Watanabe and Oestreich.

VIII. CONCLUSION

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: May 15, 2006

CLAIMS APPENDIX

CLAIMS 1-22 ON APPEAL:

1. A method of establishing the tandem free operation mode for a mobile station to mobile station and cell to cell call in a cellular mobile telephone system, the method comprising selecting a common coding mode for each mobile station and the selection of a common coding mode takes account of the traffic load in at least one cell.

2. (allowable) A method according to claim 1, wherein said common coding mode is selected on the basis of lists of coding modes supported by each mobile station and if the corresponding mobile station is in a busy cell the list of supported coding modes is shortened to eliminate therefrom the coding modes that consume the most resources.

3. (allowable) A method according to claim 2, wherein a common coding mode is selected on the basis of non-shortened lists of supported coding modes if no common coding mode can be selected on the basis of lists of supported coding modes at least one of which is a shortened list.

4. (allowable) A method according to claim 3, wherein the criterion for selecting a common coding mode on the basis of lists of coding modes supported by each mobile station is a quality optimization criterion.

5. (allowable) A method according to claim 2, wherein common coding modes for each mobile station are initially selected independently of each other and a list of supported

coding modes is shortened only if the coding mode initially selected for the corresponding mobile station is additionally one of the coding modes consuming the least resources.

6. (allowable) A method according to claim 2, wherein coding modes for each mobile station are initially selected independently of each other, the method further determines if the coding modes initially selected for each mobile station are identical, and:

- if they are identical, the corresponding coding mode constitutes said common coding mode, or

- if they are not identical, said common coding mode is selected on the basis of said lists of supported coding modes for each mobile station.

7. (allowable) A method according to claim 2, including at least one step during which an entity of said system handling the call for each mobile station communicates a list of supported coding modes for that mobile station to a like entity handling the call for the other mobile station and a subsequent step during which each entity selects a common coding mode on the basis of lists of supported coding modes for each mobile station and as a function of the same criterion.

8. (allowable) A method according to claim 6, including at least one step during which an entity of said system handling the call for each mobile station communicates a list of supported coding modes for that mobile station to a like entity handling the call for the other mobile station and a subsequent step during which each entity selects a common coding mode on the basis of lists of supported coding modes for each mobile station and as a function of the same

criterion, and determines if the coding modes initially selected for each mobile station are identical.

9. A method according to claim 1, wherein said system is GSM.

10. A method according to claim 1, wherein one of said coding modes consuming the least resources is half-rate mode.

11. A method according to claim 1, wherein one of said coding modes consuming the most resources is full-rate mode.

12. A method according to claim 1, wherein one of said coding modes consuming the most resources is enhanced full-rate mode.

13. A cellular mobile telephone system for implementing a method according to claim 1, the system including, for establishing the tandem free operation mode for a mobile station to mobile station and cell to cell call, means for selecting a common coding mode for each mobile station taking account of the traffic load in at least one cell.

14. A method according to claim 1, wherein a common coding mode is selected for a transcoder of each mobile station.

15. (allowable) A method according to claim 4, wherein a full rate (FR) or an enhanced full rate (EFR) mode is selected as a common mode for quality optimization criterion if FR and EFR mode is supported in common by each mobile station.

16. (allowable) A method according to claim 2, wherein the list of supported coding modes is shortened to half-rate (HR) mode if the coding mode initially selected for a mobile station is HR mode and the corresponding cell is busy.

17. (allowable) A method according to claim 16, wherein the cell is busy if a quantity of resources allocated in the cell during a given period is greater than a given threshold.

18. (allowable) A method according to claim 3, wherein said non-shortened list comprises coding modes HR, FR and EFR.

19. A method according to claim 1, wherein said common coding mode selected for each mobile station, for a mobile station to mobile station and cell to cell call, establishes tandem free operation.

20. (allowed) An entity operable in a cellular mobile communication system, operable to establish a tandem free operation mode for a mobile station-to-mobile station and cell-to-cell call in said system, said entity being in charge of said call for a given one of said mobile stations, said entity comprising:

means for shortening a list of supported coding modes for said given mobile station, to be communicated to a peer entity in charge of said call for the other one of said mobile stations, to eliminate therefrom the coding modes that consume the most resources, if said given mobile station is in a loaded cell, and

means for communicating said list to said peer entity.

21. (allowed) An entity according to claim 20, wherein said means for shortening said list of supported coding modes further comprises means for shortening said list only if a coding mode initially selected for said given mobile station is one of the coding modes consuming the least resources.

22. An entity operable in a cellular mobile communication system, operable to establish tandem free operation mode for a mobile station-to-mobile station and cell-to-cell call in said system, said entity is in charge of said call for a given one of said mobile stations, said entity comprising:

means for selecting a common coding mode for each of said mobile stations,

means for taking into account the traffic load in at least one of said cells for said selection of a common coding mode.

EVIDENCE APPENDIX:

None.

RELATED PROCEEDINGS APPENDIX

None.